RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _____ 10/575,991

Source: _____ IFWP

Date Processed by STIC: _____ 04/27/2006

ENTERED

RAW SEQUENCE LISTING   DATE: 04/27/2006
PATENT APPLICATION: US/10/575,991   TIME: 07:20:26

Input Set : **A:\54-000711US.ST25.txt**
Output Set: **N:\CRF4\04272006\J575991.raw**

```
 3 <110> APPLICANT: The Scripps Research Institute
 4         Alfonta, Lital
 5         Schultz, Peter G
 6         Zhang, Zhiwen
 8 <120> TITLE OF INVENTION: SITE-SPECIFIC INCORPORATION OF REDOX ACTIVE AMINO ACIDS INTO
 9         PROTEINS
11 <130> FILE REFERENCE: 54-000711US
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C--> 13 **<140> CURRENT APPLICATION NUMBER: US/10/575,991**
C--> 14 **<141> CURRENT FILING DATE: 2006-04-13**
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16 <160> NUMBER OF SEQ ID NOS: 5
18 <170> SOFTWARE: PatentIn version 3.2
20 <210> SEQ ID NO: 1
21 <211> LENGTH: 306
22 <212> TYPE: PRT
23 <213> ORGANISM: Artificial
25 <220> FEATURE:
26 <223> OTHER INFORMATION: synthetase selected for incorporation of DHP
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31 1               5                  10                  15
34 Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Leu
35              20                  25                  30
38 Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
39         35                  40                  45
42 Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
43      50                  55                  60
46 Leu Leu Ser Asp Leu Asn Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
47 65                  70                  75                  80
50 Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
51              85                  90                  95
54 Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Glu Phe Gln Leu Asp Lys
55             100                 105                 110
58 Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
59         115                 120                 125
62 Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
63      130                 135                 140
66 Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Asp Ile His
67 145                 150                 155                 160
70 Tyr Leu Gly Val Asp Val Gln Val Gly Gly Met Glu Gln Arg Lys Ile
71             165                 170                 175
74 His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
75             180                 185                 190
78 Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
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79          195                200                205
82 Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
83     210                215                220
86 Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
87 225             230                235                240
90 Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
91             245                250                255
94 Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
95         260                265                270
98 Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
99         275                280                285
102 Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
103     290                295                300
106 Arg Leu
107 305
110 <210> SEQ ID NO: 2
111 <211> LENGTH: 77
112 <212> TYPE: RNA
113 <213> ORGANISM: Artificial
115 <220> FEATURE:
116 <223> OTHER INFORMATION: mutant tRNA
118 <400> SEQUENCE: 2
119 ccggcgguag uucagcaggg cagaacggcg gacucuaaau ccgcauggcg cugguucaaa     60
121 uccggcccgc cggacca                                                   77
124 <210> SEQ ID NO: 3
125 <211> LENGTH: 918
126 <212> TYPE: DNA
127 <213> ORGANISM: Artificial
129 <220> FEATURE:
130 <223> OTHER INFORMATION: synthetase selected for incorporation of DHP
132 <400> SEQUENCE: 3
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135 agagaggttt taaaaaaaga tgaaaaatct gctctcatag gttttgaacc aagtggtaaa    120
137 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaaa tgctggattt    180
139 gatataatta tattgttgag cgatttaaac gcctatttaa accagaaagg agagttggat    240
141 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca    300
143 aaatatgttt atggaagtga attccagctt gataaggatt atacactgaa tgtctataga    360
145 ttggctttaa aaactacctt aaaaagagca agaaggagta tggaacttat agcaagagag    420
147 gatgaaaatc caaaggttgc tgaagttatc tatccaataa tgcaggttaa tgatattcat    480
149 tatttaggcg ttgatgttca ggttggaggg atggagcaga gaaaaataca catgttagca    540
151 agggagcttt taccaaaaaa ggttgtttgt attcacaacc ctgtcttaac gggtttggat    600
153 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctgttgatga ctctccagaa    660
155 gagattaggg ctaagataaa gaaagcatac tgcccagctg agttgttga aggaaatcca    720
157 ataatggaga tagctaaata cttccttgaa tatcctttaa ccataaaaag gccagaaaaa    780
159 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag    840
161 gaattgcatc caatggattt aaaaaatgct gtagctgaag aacttataaa gattttagag    900
163 ccaattagaa agagatta                                                  918
166 <210> SEQ ID NO: 4
167 <211> LENGTH: 306
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Input Set : **A:\54-000711US.ST25.txt**
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168 <212> TYPE: PRT
169 <213> ORGANISM: Methanococcus jannaschii
171 <400> SEQUENCE: 4
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174 1               5                   10                  15
177 Glu Glu Glu Leu Arg Glu Val Leu Lys Lys Asp Glu Lys Ser Ala Tyr
178             20                  25                  30
181 Ile Gly Phe Glu Pro Ser Gly Lys Ile His Leu Gly His Tyr Leu Gln
182         35                  40                  45
185 Ile Lys Lys Met Ile Asp Leu Gln Asn Ala Gly Phe Asp Ile Ile Ile
186     50                  55                  60
189 Leu Leu Ala Asp Leu His Ala Tyr Leu Asn Gln Lys Gly Glu Leu Asp
190 65                  70                  75                  80
193 Glu Ile Arg Lys Ile Gly Asp Tyr Asn Lys Lys Val Phe Glu Ala Met
194             85                  90                  95
197 Gly Leu Lys Ala Lys Tyr Val Tyr Gly Ser Glu Phe Gln Leu Asp Lys
198             100                 105                 110
201 Asp Tyr Thr Leu Asn Val Tyr Arg Leu Ala Leu Lys Thr Thr Leu Lys
202         115                 120                 125
205 Arg Ala Arg Arg Ser Met Glu Leu Ile Ala Arg Glu Asp Glu Asn Pro
206     130                 135                 140
209 Lys Val Ala Glu Val Ile Tyr Pro Ile Met Gln Val Asn Asp Ile His
210 145                 150                 155                 160
213 Tyr Leu Gly Val Asp Val Ala Val Gly Gly Met Glu Gln Arg Lys Ile
214             165                 170                 175
217 His Met Leu Ala Arg Glu Leu Leu Pro Lys Lys Val Val Cys Ile His
218             180                 185                 190
221 Asn Pro Val Leu Thr Gly Leu Asp Gly Glu Gly Lys Met Ser Ser Ser
222         195                 200                 205
225 Lys Gly Asn Phe Ile Ala Val Asp Asp Ser Pro Glu Glu Ile Arg Ala
226     210                 215                 220
229 Lys Ile Lys Lys Ala Tyr Cys Pro Ala Gly Val Val Glu Gly Asn Pro
230 225                 230                 235                 240
233 Ile Met Glu Ile Ala Lys Tyr Phe Leu Glu Tyr Pro Leu Thr Ile Lys
234             245                 250                 255
237 Arg Pro Glu Lys Phe Gly Gly Asp Leu Thr Val Asn Ser Tyr Glu Glu
238         260                 265                 270
241 Leu Glu Ser Leu Phe Lys Asn Lys Glu Leu His Pro Met Asp Leu Lys
242         275                 280                 285
245 Asn Ala Val Ala Glu Glu Leu Ile Lys Ile Leu Glu Pro Ile Arg Lys
246     290                 295                 300
249 Arg Leu
250 305
253 <210> SEQ ID NO: 5
254 <211> LENGTH: 918
255 <212> TYPE: DNA
256 <213> ORGANISM: Methanococcus jannaschii
258 <400> SEQUENCE: 5
259 atggacgaat ttgaaatgat aaagagaaac acatctgaaa ttatcagcga ggaagagtta      60
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```
261 agagaggttt taaaaaaaga tgaaaaatct gcttacatag gttttgaacc aagtggtaaa  120
263 atacatttag ggcattatct ccaaataaaa aagatgattg atttacaaaa tgctggattt  180
265 gatataatta tattgttggc tgatttacac gcctatttaa accagaaagg agagttggat  240
267 gagattagaa aaataggaga ttataacaaa aaagtttttg aagcaatggg gttaaaggca  300
269 aaatatgttt atggaagtga attccagctt gataaggatt atacactgaa tgtctataga  360
271 ttggctttaa aaactacctt aaaaagagca agaaggagta tggaacttat agcaagagag  420
273 gatgaaaatc caaaggttgc tgaagttatc tatccaataa tgcaggttaa tgatattcat  480
275 tatttaggcg ttgatgttgc agttggaggg atggagcaga gaaaaataca catgttagca  540
277 agggagcttt taccaaaaaa ggttgtttgt attcacaacc ctgtcttaac gggtttggat  600
279 ggagaaggaa agatgagttc ttcaaaaggg aattttatag ctgttgatga ctctccagaa  660
281 gagattaggg ctaagataaa gaaagcatac tgcccagctg gagttgttga aggaaatcca  720
283 ataatggaga tagctaaata cttccttgaa tatcctttaa ccataaaaag gccagaaaaa  780
285 tttggtggag atttgacagt taatagctat gaggagttag agagtttatt taaaaataag  840
287 gaattgcatc caatggattt aaaaaatgct gtagctgaag aacttataaa gattttagag  900
289 ccaattagaa agagatta                                                918
```

RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 04/27/2006
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Input Set : **A:\54-000711US.ST25.txt**
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Invalid <213> Response:
Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3

VERIFICATION SUMMARY   DATE: 04/27/2006
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L:13 M:270 C: Current Application Number differs, Replaced Current Application Number
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date